

United States Patent and Trademark Office  
Washington, D.C. 20231  
12/19/2006

Dear Sir / Madam:

Please find attached an Appeal Brief for Application No. 09/287,478 in response to a Notice of Panel Decision from Pre-Appeal Brief Review with an official mailing date of 7/19/2006.

This response was original due on 8/19/2006. Enclosed is a petition and fee for a 4-month extension. It is hoped that the significant delay in filing this appeal will not be prejudicial to the proceedings as it was due in large part to a involuntary personal and corporate relocation (due to a renovation) and also due to the relative inexperience of the applicant with the Appeals process.

Thank you,  
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Appl. No. 09 / 287,478  
Amdt. Dated: Dec. 19, 2006

Appeal Brief

Reply to Office action of Notice of Rejection of Pre-appeal, mailed 7/19/2006



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 09 / 287,478 Confirmation No. 6350  
Applicant : Christian S. Rode  
Filed : April 6, 1999  
Provisional Appl. Filed : 60/080,905, 4/06/98  
TC./A.U. : 2128  
Examiner : Thai Phan  
  
Docket No. : RCI001v1

M/S Appeal Brief - Patents  
Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

**APPEAL BRIEF**

Dear Sir or Madam:

In response to a Notice of Panel Decision from Pre-Appeal Brief Review with mailing date 7/19/2006, please consider the following brief.

**Real party in interest.**

All rights to and interest in this patent have been assigned to Rode Consulting, Inc., a Massachusetts Corporation, Federal Tax ID 04-3333085.

**Related appeals and interferences.**

None.

**Status of claims.**

Claims 1-16 are pending and rejected.

**Status of amendments.**

No claims have been amended (or added) since Final Rejection.

**Summary of claimed subject matter.**

Applicant claims a system for simulating electronic circuits and components by means of an intrinsically stateless protocol such as HTTP, in conjunction with at least one element of state, a synthetic Unique Identifier. Applicant discloses specific methods to make practical the **public use** of such a system by **unregistered persons** by means of the automatic assignment of said Unique Identifier and methods that make use of the identifier to regulate use of resources. Further claimed are methods that use this Identifier to index and manage temporary files, which may be used, for example, to feed results from a circuit synthesis step forward to simulation/verification. Also claimed are various methods to regulate and log (etc.) use of resources, such as limiting total number of simulations (count or time) or lowering the process priority of said simulations.

**Background**

At this late date it is useful to summarize the state of the industry at time of reduction to practice (Mar-July 1997) and to state clearly what is **not** being claimed. In point of fact, the present claims represent a considerable refinement of the originals, so as to restrict their scope to essentially HTTP and any similar stateless protocols.

Client-server simulation predates the advent of the WWW and the Applicant has personally used such systems (via X11) in the development of integrated circuits. The present application scrupulously avoids any general claims to client-server simulation over the internet. It is possible, for example, to reproduce traditional client-server behavior using a Java applet running TCP from within a web page (see discussion of Lawman Xilinx patent below), but that is using a completely different mechanism than stateless HTTP, and so does not relate to the present application.

Further, from the time of filing, Applicant has made an effort to avoid claiming the idea of interactive SPICE simulation using a Browser via basic CGI, on the assumption that this might be construed as too obvious (although that may have to be reconsidered in light of Transim patents 6,530,065 and 6,832,182).

In addition, Applicant has made significant disclosures that enable the simulation of preconfigured but user-modifiable circuits over the internet, by unregistered persons, a significant advance over what was to be demonstrated by others even a few years afterwards. Applicant was also first to link synthesis to verification-by-simulation using a browser, to the best of his present knowledge.

Within the WWW technology field, there were historically two fundamental modes of HTTP access: 1) static file retrieval (e.g., .HTML, .JPG, .GIF, etc. files), and 2) interactive results from a CGI (Common Gateway Interface) form submission. At the time of reduction to practice of the present invention (early-mid 1997), CGI was a somewhat immature mechanism, having been conceived only in 1993 with the widely implemented 1.1 draft standard released only in October of 1995 (see <http://www.w3.org/CGI/>). It was fully appreciated from the start that the CGI mechanism could execute almost any task or group of tasks on a web server, and return results therefrom. This would include results from a simulation or other CAD/CAE-related tasks.

It is possible, by means of hidden form data, or URL extensions, or “cookies” to transmit state between Browser and Web Server, which was a relatively new art at the time of reduction to practice of the present Invention and one that to present Applicant’s belief had not to that point been used to regulate Server resource use (it had been used for multipage forms and to keep track of shopping cart contents, for example). As web technology and CAD technology were then widely separated arts, and coupled with an additional widespread lack of appreciation for just how fast computers had become relative to some very useful simulations; these factors set the stage for the present invention.

**Grounds of rejection to be reviewed on appeal.**

1. Citation of prior art which is in error or otherwise inappropriate.
2. Citation of prior art which is apparently misunderstood.
3. Failure to respond to arguments against citations of prior art which are claimed as “moot in view of new grounds of rejection”, when, in fact, the supposed “new” grounds reuse the exact references that were argued against in the preceding Response/Amendment. (Applicant assumes the Examiner uses the word “moot” in its common legal sense of “null and void”, as opposed to “debatable”, which was the original sense of the word).
4. General arguments in favor of non-obviousness have not received a response.
5. Per claim arguments against citations of prior art and and/or non-obviousness have been broadly swept aside as “moot in view of new grounds of rejection”, or as “not persuasive”, without further argument or substantiation.

**Argument.**

1. Citations of prior art which are in error or otherwise inappropriate.

There are several examples of apparently erroneous citations of the prior art. As an example, from the Office Action with a mail date of 2005/12/02, page 2, last paragraph, through page 3, first paragraph (first cited prior art in rejection of claim 1):

*"As per claim 1, Van Huben (201) discloses a method and system for computerized design automation using inter-networking (e.g. World Wide Web) for transmitting design or simulation data over the network with feature limitations very similar to the claimed invention (Abstract, "Summary of the Invention"). According to Van Huben, the design simulation and verification method includes steps of creating*

*- a transmission network including clients, servers, etc. to form a computing and simulation network wherein each network client would carry unique identifier such as addressing to client, account number, etc. (Col. 18, lines 20-25, col. 23, lines 17-49, as example)."*

OA 2005/12/02, pg 2-3.

Technically the World Wide Web is the collection of hypertext-linked (HTML) files, whereas the Internet is a collection of gateways and routers connecting local computer networks (a fairly common colloquial use of these terms), nonetheless, the citation is otherwise erroneous:

*"Status on BOMs is and should be accessible in two ways. The first is by automatic notification (e.g. e-mail) to the owner as soon as a BOM is invalidated. The second is by means of displaying the BOM either interactively or in report form. This listing shows the overall status of the BOM, and all members of the BOM with their individual status. "*

Citation 3.1a (5,950,201, col. 18 lines 19-25)

*"Authorities (Section 1.12)*

*The DCS permits the Data Manager to establish a wide variety of authorities which gives him great flexibility in managing the library. Each type of*

*authority can be defined very loosely (the user is authorized for all design components, at all levels, in all versions) to very tightly (the user is authorized on an individual design component basis). The utility for granting authorities works in one of two modes:*

*In one mode the Data Manager is offered a screen in which he can fill in the design component name, type, level, version, user ids, and the type of authority. For any field, except for the user ids, he can default it to "ALL".*

*In the other mode an authority profile can be called up and executed. An authority profile allows the Data Manager to pre-define the types of authorities for a given type of job. For example, profiles may exist for Designer, Technical Leader, Model Builder, etc.. This information is contained in an editable ASC file in which the Data Manager defines the kinds of authority to varying degrees of restriction. Once the profiles are created, the Data Manager uses this mode to either add/delete users to/from the profile and process the changes within the DCS.*

*Authorities exist for the following tasks:*

*Setting Locks (Move, Overlay, Update, ALL)*

*Promoting design components and/or BOMs into levels (Engineering Levels, Release Level.*

*Creating BOMs*

*Initiating Library Processes*

*Setting Pseudo Process Results"*

*Citation 3.1b (5,950,201, col. 23, lines 17-49)*

The first part of the citation seems completely random and the second (3.1b) would appear to ignore the current wording of claim 1, part a) "**synthesizing and transmitting** said Unique Identifier by means of said Stateless Communications Protocol **to at least one Client...**". Instead, the citation given discusses how a Data Manager (a human being "member of the design team", not a server method, as per col. 12, lines 16-18) can **manually** assign privileges to each member of a development team, which is the traditional IT practice in almost perfect contradistinction to the teachings of the present application where all such "accounts" may be created and managed automatically, with a Unique Identifier for such accounts created and transmitted to and from the client without human intervention.

*"While more powerful situations are contemplated, the system can be installed in a prior art system, like that described in U.S. Pat. No. 5,333,312. Thus, as we show in FIG. 1, the prior art system of the earlier patent, can be employed in this application, by providing the system with new programs. However, such a system, as illustrated by FIG. 1 will be a data processing system 8, which may include a plurality of networks, such as Local Area Networks (LAN), 10 and 32, each of which preferably includes a plurality of individual computers 12 and 30..."*

Citation 3.2a (5,950,201, col 9, line 41 to col 9 line 62)

The next citation, 3.2a, "(col. 9, line 41 to col. 10, line 20)" would appear to be more appropriate to the preceding clause but irrelevant to claim 1, parts b) and c) as it merely describes the computing topology upon which the disclosed methods execute, and doesn't substantively address the issue of form transmission and submission to which it is attached. The next citation, 3.2b (cols 44-45, 63) is highly obscure, as it discusses "Automated Library Machines" and how they communicate using middleware to move data in heterogeneous compute environments. This is only related in the remotest possible way (i.e, transmission of data) to the disclosed transmission of a synthesized Unique Identifier back and forth with form data which is the clear intent of clauses b) and c), and as such is not a relevant reference to the prior art. Also the reference to "structure design data" here appears misplaced, but might be appropriate to claim 9. Regardless, applicant readily concedes that form transmission and submission is a general feature of the client-server prior art, though not necessarily together with an statelessly-transmitted synthetic Unique Identifier.

With regard to citations 3.4a,b,c,d and e (col. 6, lines 54-67; col. 9 line 53 to col. 11 line 55; col. 16, line 33 to col. 18, line 64; col. 20, line 27 to col. 22, line 65; cols. 33, 44-45, 51, 85-88), 3.4a) claims the Van Huben Computerized Design Automation Method manages data and integrates just about any repetitive process related to design, development, manufacturing, inventory tracking. But crucially it does not consider a **public demonstration/evaluation capability**, a primary application for the present invention and one that necessitates new methods for allocating finite resources in an uncontrolled environment.

3.4b-e do not address the issue of merging form data with simulation template data. The words "merge" or "merging" appear nowhere within van Huben ('201), and a "Simulation BOM" (col. 21, line 62) is not a template under control of a "Simulation Coordinator (Integrator)" (col. 73, line 60 to col. 74, line 3). This is a list of items that will trigger processes when certain changes occur. Merging of SPICE data into a template, as disclosed, is a known art but would require a fourth reference which would lend additional force to an argument for non-obviousness.

## 2. Citations of prior art which are apparently misunderstood.

3.4f (Lawman, col 7, lines 50-58) merely states that the “The vendor (Xilinx) places a web page on the internet in a location to which users (e.g., Xilinx customers and potential customers) have access. In the screen display of the user's computer, the web page requests licensing and access passwords, which must be provided by the user in order to configure the design database. In this embodiment, the user interface will not write any output files unless the user accepts the license terms. This type of licensing requirement is well known to those skilled in the software art.” This says nothing about use of a Unique Identifier transmitted by a stateless protocol such as HTTP. In fact, the XPCI works via Java by opening a TCP connection to the host; something that will not work through ordinary firewall/HTTP proxies (as documented by Xilinx; see previous communication on this topic). The cited reference in fact demonstrates one of the limitations of the prior art the present invention was designed to overcome, disclosing nothing, therefore, that would imply obviousness. Citations 3.4g and 4.1a/b (Lawman Figs. 5-17, cols. 7-10) refer to a “unique identifier” and an applet ID although neither can be located in the Lawman patent text and are in any event irrelevant for the reasons just discussed.

As a further example, consider page 4 of the action of 2005/12/02, “As per claim 3”, citation 4.1 (Lawman, cols. 6-10). In this case, the phrase “operating system” cannot be found in Lawman, although cross platform support is admittedly inherent with the idea of a web browser. However, the claim under discussion (3) is “The method of Claim 2 wherein at least some of said output data is automatically rendered by Client methods **for graphical display.**” Lawman addresses synthesis and download of a download package, not the graphical result of a simulation (see Lawman 6,324,672, col 10, line 58 – col 11, line 15).

There seems to be a methodology at work of identifying a small number of keywords or phrases in a CAD-related application and from there interpolating prior art disclosure that can't be found anywhere in the patent. For further examples see section 5.

## 3. Arguments made against citations of prior art have not been responded to.

Historically, this has been an issue with all van Huben references which when objected to have been “mooted” as “irrelevant due to new grounds of rejection”. It in no way stands to reason that if a direct rejection of Claim N cites van Huben H1 and “other” citation O1, that a retread of this rejection citing the **exact same van Huben citation with the same language** except joined to a new citation O2, and possibly a third citation O3, moots the fundamental objection to van Huben H1 (examples of which above, in Section 1), such as relevance. See OA of April and December 2005, and further in Section 5.



4. General arguments by Applicant in favor of non-obviousness have not received a response.

From the first Reply/Amendment, Applicant has made various general arguments against non-obviousness:

The present application Solved an Unrecognized Problem

To the best of Applicant's belief, at the time of reduction to practice (March-July 1997) there were no web-based CAD/CAE tools designed for public simulation of circuits by means of HTTP and the WWW. There would not be any similar public systems for at least 3 years. Applicant is still unaware of any system that directly couples design synthesis (e.g., Active Filter synthesis in the present invention) to subsequent verification by SPICE simulation. This latter application met with significant Commercial Success through license via EDTN/ChipCenter until the latter closed its doors, years before a rival technology supported by National Semiconductor appeared.

Unsuggested Modification and Combination Unsuggested

The introduction of state for a HTTP-CGI-based simulation was unsuggested at the time and its advantages unappreciated. In the Applicant's view, this was due to the New and Surprising Result that simulation on the latest PCs was fast enough to be interactive, and to the then widely held (and erroneous) belief that web browsers could not support serious client-server applications.

Among the disclosed references, please consider Lorenz, P. and Schriber, T., "Towards a Web-Based Simulation Environment", Proc. of the 1997 Winter Simulation Conference, Dec. 7-10, 1997), pg 1341 and Regnier and Wilamowski, "SPICE Simulation and Analysis through Internet and Intranet Networks", IEEE Circuits and Devices Mag., May, 1998. Note that both of these references **post-date** the reduction to practice of the present invention, and in the case of Regnier, the present application's provisional filing date also. In other words, not only was public simulation interesting over the internet, but **any** complex (SPICE) simulation.

The former reference (Lorenz, et al) is a fair summary of the state of the art as of Dec. 1997, and the mere fact that an expert in the field at that time would still title a conference paper "***Towards a Web-Based Simulation Environment***", with the implication that such an environment is yet to arrive, augurs in favor of the non-obviousness of the disclosed methods at the time of their creation.

The latter reference (Regnier, et al) indicates that the subject of SPICE simulation on the Web was still novel enough in 1998 as to be worthy of scholarship. It should be noted that SPI, although still used today, to the Applicant's knowledge never met with commercial success, presumably because it required a login step.

Commercial Acquiescence

In his Office Action of 2005/4/11, the Examiner cited Lawman, et al (6,324,672), which is an outstanding argument in favor of non-obviousness as Xilinx was the sponsor of the ChipCenter site during its initial run. In fact Xilinx's XPCI demonstrates precisely those limitations of the prior art that the present invention was designed to obviate. That Xilinx became a customer, even if indirectly, should mitigate in favor of allowability. (See Additional response to Office communication regarding 09/287,478, mailed 9/26/2005 and attached screenshots).

Please refer to Lorenz, P. and Schriber, T., "Towards a Web-Based Simulation Environment", Proc. of the 1997 Winter Simulation Conference, Dec. 7-10, 1997), pg 1341 and Regnier and Wilamowski, "SPICE Simulation and Analysis through Internet and Intranet Networks", IEEE Circuits and Devices Mag., May, 1998.

The fact that as late as Dec. 1997 an expert in the field could still title a conference paper "*Towards a Web-Based Simulation Environment*", with the implication that such an environment has yet to arrive, should be taken as evidence of the non-obviousness of the methods disclosed in the timeframe of their creation.

Crowded Art

The field of client-server CAD/CAE software is crowded and competitive and the electronics industry is one of the world's largest, yet none thought to implement a similar system.

Different Combination

Even though client-server CAD systems have existed since at least the 1980's, and although the client-server connectivity of such systems necessarily involves state, such state is not inherent in browser-based client-server systems and always operates in a very different manner and at a application or user account levels, not at the lower network, transport, or session levels.

Many of the examiner's arguments appear left over from before the most recent refinement to the claims, where there is no mistaking the nature of state used to communicate the "Unique Identifier".

Awkward, involved combination

To adapt van Huben (201) to perform any would be awkward.

5. Unaddressed per-claim arguments against citations of prior art and and/or non-obviousness. (from response of 9/22/2005)

The citation of Lawman (672) is actually an excellent argument in favor of the novelty and non-obviousness of the present invention, since Xilinx was apparently aware (see appnote reference below) of the inability of their XPCI applet to work behind corporate firewalls. In 1999, ChipCenter (formerly EDTN), part owned by CMP Media, was the sole client for the technology of the present invention, which was being used in HTML “interactive articles” to permit user simulation of circuit ideas explained in the text.

Towards the end of 1999, Xilinx became the primary sponsor of this site (at the same time they were prosecuting the predecessor to (672), and they were very interested in the present invention –discussions took place about making the technology available directly to Xilinx. Those discussions did not produce a new sale, though they continued to sponsor the site for some time after and their interest validates the novelty and non-obviousness of the present invention relative to Lawman (672). Synopsys was also interested at this time.

The most general arguments for non-obviousness remain the size of the electronics industry (multiple 100’s of billions of dollars in 1997) and the high visibility of the internet in 1997. This Lack of Prior Implementation points to an Assumed Unworkability, which applicant posits as a possible failure to appreciate the cumulative increase in performance of mainstream CPUs, coupled with a widely held underestimation of the potential of the WWW for client-server interaction.

The present invention has no pretensions to claiming the invention of CAD using a web browser, and has in fact disclosed prior art in this regard. The prior art, as was the case with Van Huben and now Lawman (672), typically requires administered accounts for security and resource limiting purposes, whereas the present invention does not have these limitations. Consequently CPU-intensive activities such as circuit simulation can be made publicly available, which is a new frontier for CAD. Lawman (672) specifically discusses the need for login accounts. Unfortunately, the present invention included an

optional login step which the applicant would consider removing for clarity if it would not be considered "new matter".

After further reflection, applicant believes the blandness of the phrase "Unique Identifier" may be the core obstacle to allowability and so has modified claims 1, 10 and 15 to make explicit that the Unique Identifier is something that is transmitted at the Stateless Protocol level and so can in no way be construed as any part of traditional client-server communication.

Regarding "As per claim 1",

Lawman's (672) sole advantage over Van Huben (201) is the demonstration of a Java applet used to contact a remote server for CAD purposes, but Lawman does not teach anything about how the applet communicates with the server and in particular it does not address a need to dynamically synthesize an identifier, which would likely be superfluous since Lawman specifically discusses the use of "access passwords" (C7:L50 – C8:L11), which would seem to imply the existence of accounts. In fact, Xilinx's own app notes would appear to disclose an inability to communicate via a (HTTP) proxy server.

Regarding "As per claim 2",

The novelty of this claim depends on Claim 1.

Regarding "As per claim 3",

Lawman does demonstrate various user interfaces compatible with multiple operating systems, apparently by means of a Java applet (inferred from Fig. 6, and various "Unsigned Java Applet" messages in other Figures). Cross-platform functionality is intrinsic to Java and HTML. Critically, however, an explanation of the networking details is absent in Lawman, and so cannot be considered taught.

Fig. 6:

"XPCI Web Based Programming Interface Applet \$Id:  
xpciClient.java, v 1.3 1997/01/24 16:41:12"

Regarding "As per claims 4-6",

Applets have multiple connectivity options in contacting a server:

- 1) With ordinary applet privileges, an applet may open a connection to the server from which it was loaded. With full privileges (not the default, nor apparently the case here as it requires a signed applet), an applet may open a server socket and make contact to any port on any machine on the Internet. Opening sockets for communication is traditional behavior for client-server applications and is not in general compatible with proxy servers. I have found this on a foreign website, which appears to be a copy of an old Xilinx appnote regarding XPCI (relevant portion)

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(From  
http://www.nalanda.nitc.ac.in/industry/appnotes/xilinx/document  
s/techdocs/7436.htm)
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...  
#7436
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Solution 1:

This error can occur while trying to access the PCI Web Core Generator from behind a corporate firewall. The Xilinx CORE Generator applet must establish a socket connection directly with the server at [www.xilinx.com](http://www.xilinx.com). Some corporate firewalls block these type of connections.

There are currently a couple of workarounds:

- 1) Verify with the system administrator that the firewall does not block socket connections.
- 2) Access the PCI Core Generator from another ISP which allows socket connections
- 3) Contact the hotline with your PCI Lounge username, password, and details of what core you wish to download, and have them generate the core and email it to you.

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...
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- 2) An applet may contact a server using the ordinary CGI GET / POST mechanism,

which does not by default cause any preservation of state on the server, and in many cases this is sufficient. Certainly it could have proved sufficient for Lawman, et al, to simply spawn a traditional CGI process which after running for some time on the server returned results directly, or emailed them. Because it was required that the user log on to his or her account, there was no need to create a "Unique Identifier".

- 3) The present invention also makes use of the CGI mechanism, but adds an automatically assigned unique identifier for a multiplicity of purposes, amongst which is management of state on the server in the absence of an open socket connection or login account. Lawman neither teaches nor anticipates the need for a dynamically assigned unique identifier at the application level.

Regarding "As per claim 7"

Use of the word database in Lawman is essentially restricted to "design database", equivalent for the present invention to a submission of user data. What is referred to as a database in the present invention is something with a completely different purpose, that of storing auditing data.

Regarding "As per claim 8",

As previously noted, van Huben does not teach lowering of process priority based on usage. Van Huben's resource/attribute tables appear directed at preventing deadlock by enabling or disabling entire processes according to resource availability, rather than adjusting process priority.

Regarding "As per claim 9",

Lawman does not teach the synthesis of a circuit that is transmitted to the client for editing within a browser window for subsequent simulation.

Regarding "As per claim 10",

The issues are essentially the same as in 1: Lawman does not in fact teach the use of an on-demand synthesized or created Unique Identifier, instead he refers to passwords, a traditional method part of the prior art.

Regarding “As per claim 11”,

As previously noted, the privileges described herein need not be assigned by an account manager. These privileges may be derived by domain, from a “ticket” (perhaps stored in a cookie by another process), or by means of the link the user used to reach the first interface page, etc.

Regarding “As per claim 12”,

Neither Lawman nor van Huben say anything about cookies.

Regarding “As per claim 13”,

Lawman discusses log files in two contexts – the saving of error messages and the reading of data from IC. In the first case, the error messages can be used for debugging, but Lawman says nothing about marketing or sales.

Regarding “As per claim 14”,

It is true that Lawman discloses the use of passwords to access the XPCI applet. But there is no transmission of a Stateless Communications Protocol-compatible Unique Identifier.

Regarding “As per claim 15”,

The issues are essentially the same as in 1: Lawman does not in fact teach the use of an on-demand synthesized or created Unique Identifier, instead he refers to passwords, a traditional method part of the prior art.

Regarding “As per claim 16”,

As previously noted, applicant does believe it is possible for a single user of the IBM DCS to initiate multiple simultaneous processes, but as there is no attached citation, and a search for keywords could not discover any discussion of automatic elimination of multiple simulations or other processes.



**Claims appendix.**

1. A server simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said simulation method comprising the steps of:
  - a) synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol to at least one Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol and said Unique Identifier to be used by at least one Server for at least one of the purposes of a) maintaining server state including, but not limited to, separation and management of User data, b) limiting access to or limiting use of server resources, c) tracking server usage or d) server security;
  - b) transmitting Form Creation Data to said at least one Client;
  - c) accepting User Form Data and said Unique Identifier from said at least one Client;
  - d) merging said User Form Data from said at least one Client with other data, including simulation template data;
  - e) processing said merged data to produce output data, wherein said output data are functions of a simulation and in a format compatible with said at least one Client display instructions;
  - f) transmitting said output data to said at least one Client.
2. The method of Claim 1 wherein only steps c-f may be repeated for each new simulation of the same form and wherein only steps b-f may be repeated for each simulation of a new form.
3. The method of Claim 2 wherein at least some of said output data is automatically rendered by Client methods for graphical display.
4. The method of Claim 1 wherein said Unique Identifier is used to keep the data of

each user separate from all other users, with high probability (>99%).

5. The method of Claim 4 wherein said user data is stored in temporary files with a limited lifetime.

6. The method of Claim 1 wherein the Unique Identifier is made verifiable by means of an internal checksum.

7. The method of Claim 1, comprising the following additional steps before processing of said merged data:

- a) retrieving a database record indexed by the Unique Identifier, said database record containing at least an associated simulation usage and timestamp;
- b) creating a new database record when no existing record is found, said new database record indexed by the Unique Identifier and containing at least a simulation usage initialized to zero (0) and a timestamp initialized to the current time;
- c) deleting said retrieved record and backing up at least one step, if said timestamp has become older than a certain threshold;
- d) skipping at least the processing of said merged data, if the simulation usage per unit time has exceeded some threshold;
- e) updating said simulation usage in said database record and saving the updated record in said database.

8. The method of Claim 7, wherein the simulation usage is used to lower the process priority of the simulation.

9. The method of Claim 1, wherein additional steps related to circuit synthesis are inserted just before step b), such steps comprising:

- aa) transmitting Circuit Synthesis Form Creation Data to said Client;
- ab) accepting Circuit Synthesis Form Data from said Client;
- ac) synthesizing a circuit according to said Circuit Synthesis Form Data, where said

synthesized circuit and other temporary files are optionally kept on the Server and indexed by means of the Unique Identifier for eventual use in step 1e);

ad) creating Form Structure Data for use in step 1b), said Form Structure Data containing circuit topology data.

10. An interactive network simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said method comprising:

synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol from a Server to a Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol;

transmitting Form Creation Data from a Server to said Client;

transmitting Schematic data from a Server to said Client;

displaying a Form as described by said Form Creation Data and rendering an associated Schematic as described by said Schematic Data by display methods of said Client;

merging of User Form Data from said Client with other data, including simulation template data;

processing by a Server of said merged data to produce at least graphical output data, wherein said graphical output data are functions of a simulation and in a format compatible with said Client's display instructions;

transmitting at least said graphical output data to said Client.

11. The method of Claim 1, wherein said assigned Unique Identifier is associated with superior or inferior privileges, said privileges comprising at least one of: a) access to models and circuits, b) simulation priority and/or maximum simulation time, c) quality/accuracy of simulation methods employed, d) the maximum size and/or persistence of design and/or simulation data.

12. The method of Claim 14, wherein said assigned Unique Identifier is saved on the Client (e.g., a "Cookie") to permit a simulation or synthesis session to be suspended and resumed at a later time without requiring the user to re-qualify for access.

13. The method of Claim 1, wherein some portion of the said User Form Data is logged together with at least said Unique Identifier for marketing, sales or debugging purposes. Suitable storage mechanisms for said logged data include, but are not limited to: a) HTTP log file (if HTTP GET mechanism used to initiate simulation), b) file of a type and format determined by the simulation software or c) database record.

14. The method of Claim 1, wherein said Unique Identifier is created and transmitted contingent upon the user qualifying for access by successfully conveying appropriate qualification data from the Client to the Server.

15. A server simulation method, for use with at least one Client communicating with at least one Server over a Network by means of a Stateless Communications Protocol, said simulation method comprising the steps of:

- a) synthesizing a Unique Identifier and transmitting said Unique Identifier by means of said Stateless Communications Protocol to at least one Client, said Unique Identifier of a data type compatible with proxies for said Stateless Communications Protocol;
- b) transmitting Form Structure Data to said at least one Client;
- c) accepting User Form Data and said Unique Identifier from said at least one Client;
- d) merging said User Form Data from said at least one Client with other data, including template data;
- e) processing said merged data to produce output data, wherein said output data are functions of a simulation and in a format compatible with said at least one Client Browser instructions;
- f) while processing said merged data to produce output data, simultaneously capable of accepting and processing new User Form Data from said at least one Client, reception

of said new User Form Data with identical Unique Identifier causing present execution of simulation method to be aborted and associated resources freed in favor of processing of said new User Form Data;

g) transmitting said output data to said at least one Client.

16. (previously presented) The method of Claim 1 with the additional ability to execute a plurality of simulation method steps c-f from a single Client concurrently, said plurality being reduced to a single simulation method by aborting all but the method steps corresponding to the last submitted Client User Form Data.

**Evidence appendix.**

**Appendix E1**  
**Evidence of Partial Reduction to Practice in the April 1997 timeframe (3 pages)**

04/18/1997 15:37 6179429283 GUIDEDWAVESOLUTIONS PAGE 01

73 Mount Vernon Street • Reading, MA 01867  
Voice/Fax: (617)-942-WAVE  
sales@guidedwave.com • http://www.guidedwave.com

**Guided Wave Solutions**  
"Products That Make Waves"



To: CHRIS RODE From: B.C. WADDELL  
Fax: (617)-899-2290 Pages: 3 (including cover)  
Phone: \_\_\_\_\_ Date: 970418  
Re: Wp63E CC: \_\_\_\_\_

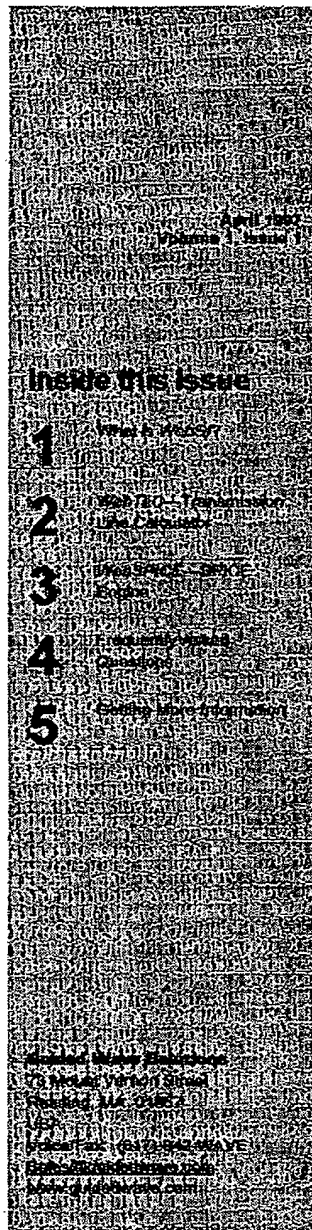
☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments:

Chris,  
Here's a stab at it. Looks nice in color.  
BCW

Note 1: 4/18/1997 of transmission

Note:2: Guided Wave Solutions has no interest in the intellectual property that is the subject of this appeal



# WebSI™



## What is WebSI?

A New Product from Guided Wave Solutions and Rode Consulting

WebSI is a collection of software which implements key calculations used in design for Signal Integrity. These components are designed to be easily added to any web page.

WebSI includes a transmission line calculator WebTLC and a SPICE engine WebSPICE which includes lossy and coupled transmission line simulation.

Together they provide a powerful addition to your web page for world-wide, cross-platform use by engineering, applications, and your customers!

## WebTLC™ Transmission Line Calculator

A common task for engineers involved in signal integrity is the analysis of transmission lines. Printed-circuit trace dimensions must be carefully chosen in order to guarantee proper performance

in high-speed digital and RF systems.

The WebSI collection includes a transmission line calculation engine called WebTLC.

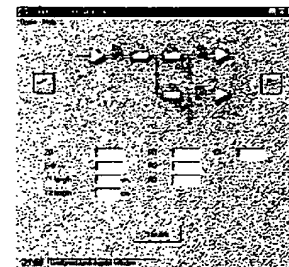
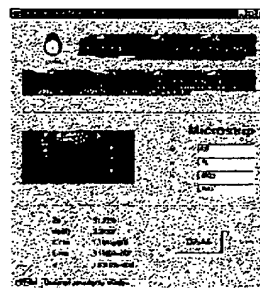
WebTLC solves coaxial line, paired lines, microstrip line, stripline, off-center stripline, coplanar waveguide, and coplanar waveguide with ground. Due to the modular nature of the code other transmission lines can be easily added or a different calculation engine can be substituted.

The figure below illustrates one possible use of this powerful design engine.

## WebSPICE™ SPICE Engine

In addition to the transmission line calculator WebSI includes a powerful SPICE engine. This engine is based on Berkeley SPICE v3.5. Virtually any component can be simulated—Rs, Cs, Ls, FETs, op amps, logic, etc. Transmission lines can be lossless or lossy or coupled.

The figure below shows a sample web



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Amdt. Dated: Dec. 19, 2006

Reply to Office action of Notice of Rejection of Pre-appeal, mailed 7/19/2006

Appeal Brief

**Related proceedings appendix.**

None.